Pushing the Envelope			
2004 Science			
Grade Level Expectations			
Louisiana Science			
Grade 5			
Activity/Lesson	**State**	**Standards**	
Types of Engines (pgs. 11-23)	LA	SCI.5.PS.9	Demonstrate a change in speed or direction of an object's motion with the use of unbalanced forces
Chemistry (pgs. 25-41)	LA	SCI.5.PS.6	Describe new substances formed from common chemical reactions (e.g., burning paper produces ash)
Physics and Math (pgs. 43-63)	LA	SCI.5.PS.9	Demonstrate a change in speed or direction of an object's motion with the use of unbalanced forces
Rocket Activity (pgs. 69-75)	LA	SCI.5.PS.9	Demonstrate a change in speed or direction of an object's motion with the use of unbalanced forces
Pushing the Envelope			
2004 Science			
Grade Level Expectations			
Louisiana Science			
Grade 6			
Activity/Lesson	**State**	**Standards**	
Types of Engines (pgs. 11-23)	LA	SCI.6.PS.23	Predict the direction of a force applied to an object and how it will change the speed and direction of the object
Chemistry (pgs. 25-41)	LA	SCI.6.PS.1	Measure and record the volume and mass of substances in metric system units
Chemistry (pgs. 25-41)	LA	SCI.6.PS.4	Differentiate between the physical and chemical properties of selected substances
Physics and Math (pgs. 43-63)	LA	SCI.6.PS.19	Identify forces acting on all objects
Physics and Math (pgs. 43-63)	LA	SCI.6.PS.20	Draw and label a diagram to represent forces acting on an object
Physics and Math (pgs. 43-63)	LA	SCI.6.PS.21	Determine the magnitude and direction of unbalanced (i.e., net) forces acting on an object
Physics and Math (pgs. 43-63)	LA	SCI.6.PS.22	Demonstrate that an object will remain at rest or move at a constant speed and in a straight line if it is not subjected to an unbalanced force
Physics and Math (pgs. 43-63)	LA	SCI.6.PS.23	Predict the direction of a force applied to an object and how it will change the speed and direction of the object
Rocket Activity (pgs. 69-75)	LA	SCI.6.PS.19	Identify forces acting on all objects
Rocket Activity (pgs. 69-75)	LA	SCI.6.PS.20	Draw and label a diagram to represent forces acting on an object
Rocket Activity (pgs. 69-75)	LA	SCI.6.PS.21	Determine the magnitude and direction of unbalanced (i.e., net) forces acting on an object
Rocket Activity (pgs. 69-75)	LA	SCI.6.PS.22	Demonstrate that an object will remain at rest or move at a constant speed and in a straight line if it is not subjected to an unbalanced force

Pushing the Envelope			
2004 Science			
Grade Level Expectations			
Louisiana Science			
Grade 8			
Activity/Lesson	**State**	**Standards**	
Types of Engines (pgs. 11-23)	LA	SCI.8.PS.7	Explain the relationships among force, mass, and acceleration
Physics and Math (pgs. 43-63)	LA	SCI.8.PS.7	Explain the relationships among force, mass, and acceleration
Physics and Math (pgs. 43-63)	LA	SCI.8.ESS.39	Relate Newton's laws of gravity to the motions of celestial bodies and objects on Earth
Rocket Activity (pgs. 69-75)	LA	SCI.8.PS.7	Explain the relationships among force, mass, and acceleration
Pushing the Envelope			
2004 Science			
Grade Level Expectations			
Louisiana Science			
Grade 9			
Activity/Lesson	**State**	**Standards**	
Types of Engines (pgs. 11-23)	LA	SCI.9.PS.29	Differentiate between mass and weight
Types of Engines (pgs. 11-23)	LA	SCI.9.PS.31	Differentiate between speed and velocity
Types of Engines (pgs. 11-23)	LA	SCI.9.PS.32	Plot and compare line graphs of acceleration and velocity
Types of Engines (pgs. 11-23)	LA	SCI.9.PS.33	Calculate velocity and acceleration using equations
Chemistry (pgs. 25-41)	LA	SCI.9.PS.4	Name and write chemical formulas using symbols and subscripts
Chemistry (pgs. 25-41)	LA	SCI.9.PS.28	Identify chemical reactions that commonly occur in the home and nature
Physics and Math (pgs. 43-63)	LA	SCI.9.PS.34	Demonstrate Newton's three laws of motion (e.g., inertia, net force using F = ma, equal and opposite forces)
Rocket Activity (pgs. 69-75)	LA	SCI.9.PS.34	Demonstrate Newton's three laws of motion (e.g., inertia, net force using F = ma, equal and opposite forces)